Claims

1. A cell transformed by

i) a polynucleotide encoding a polypeptide which comprises an amino acid sequence represented by SEQ ID NO:2 in which 1 to 10 amino acids are deleted, substituted and/or inserted and which interacts with PPARγ,

ii) a polynucleotide encoding a fusion protein comprising at least the AF-1 of the PPARγ protein represented by SEQ ID NO:4 and the DNA binding domain of a transcription factor, and

iii) a reporter gene fused to a response element to which the DNA binding domain of said transcription factor can bind; or

a cell transformed by

i) a polynucleotide encoding a polypeptide comprising an amino acid sequence represented by SEQ ID NO:2 in which 1 to 10 amino acids are deleted, substituted and/or inserted and which interacts with PPARγ and

ii) a reporter gene fused to a response element to which the PPARγ protein represented by SEQ ID NO:4 is able to bind, and expressing

a) a polypeptide comprising a protein consisting of an amino acid sequence represented by SEQ ID NO:2 in which 1 to 10 amino acids are deleted, substituted, and/or

inserted, and which interacts with PPARγ and b) the PPARγ protein represented by SEQ ID NO:4.

2. The cell according to claim 1, wherein the transcription factor is a yeast GAL4 protein.

3. The cell according to claim 1, wherein the reporter gene is a luciferase gene.

4. A method for detecting whether or not a test substance promotes the transcription induction activity of PPARγ, comprising

i) a step of allowing the cell according to one of claims 1 to 3 to contact with the test substance, and

ii) a step of analyzing the change of the test substance-dependent interaction or the change of the test substance-dependent transcription induction activity of PPARγ, in which expression of the reporter gene is used as an index.

5. A method for screening a substance promoting the transcription induction activity of PPARγ, comprising

(i) a step of allowing the cell according to one of claims 1 to 3 to contact with a test substance,

ii) a step of analyzing the change of the test substance-dependent interaction or the change of the test

substance-dependent transcription induction activity of PPARγ, in which expression of the reporter gene is used as an index and

iii) a step of selecting a test substance which activates the reporter activity.

6. The method for screening according to claim 5, wherein the substance promoting the transcription induction activity of PPARγ is an agent for improving insulin resistance.

7. A method for screening an agent for improving insulin resistance, comprising

i) a step of allowing a cell expressing PPAR-interactive p68 RNA helicase to contact with a test substance, and

ii) a step of analyzing the change of the test substance-dependent expression level of PPAR-interactive p68 RNA helicase.

8. A screening method for an agent for improving insulin resistance, comprising

i) a step of allowing a cell transformed with a reporter gene fused with the promoter region of p68 RNA helicase represented by SEQ ID NO:5 to contact with a test substance, and

ii) a step of analyzing the change of the test substance-dependent transcription induction activity, in which the expression of the reporter gene is used as an index.

9. A method for producing a pharmaceutical composition for improving insulin resistance, comprising

a screening step using the screening method according to one of claims 5 to 8, and

a formulation step using a substance obtainable by said screening.